

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	9	(compression mold\$4 compressed compressing compresses) same electrode same((powder particulate mill\$4 crush\$4) with(recycle\$2 reuse\$2 recycling reusing))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2002/11/26 10:30

SNO9/462,631

	Document ID	Issue Date	Title	Current OR	Inventor
✓ 1	US 6033722 A	20000307	Method for manufacturing electrode	427/58	Koike, Takeshi et al.
2	US 5362820 A	19941108	Carboxyl group-terminated polyester amides	525/438	Moens, Luc et al.
3	US 5306786 A	19940426	Carboxyl group-terminated polyester amides	525/437	Moens, Luc et al.
4	US 4419424 A	19831206	Electrodes for electrochemical cells current generating cells and rechargeable accumulators	429/217	Julian, John D.

	Document ID	Issue Date	Title	Current OR	Inventor
5	US 4256468 A	19810317	Method for cleaning sinter plant gas emissions	95/65	Mazer, Marshall R. et al.
6	US 3861955 A	19750121	DECORATING METHOD	427/131	Lemelson, James H.
7	US 3656946 A	19720418	ELECTRICAL SINTERING UNDER LIQUID PRESSURE	419/49	Inque, Kiyoshi et al.
8	EP 802005 A	19971022	Battery electrodes and components - with electrodes and components formed by compressing metal powder between a pair of rollers		SUGIKAWA, H
9	GB 1201331 A	N/A	Making samples for spark spectroscopy		

re-use sleeve used on compressor

US-PAT-NO: 6033722

DOCUMENT-IDENTIFIER: US 6033722 A

TITLE: Method for manufacturing electrode

DATE-ISSUED: March 7, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP
CODE COUNTRY			
Koike; Takeshi	Fukushima	N/A	N/A
JP			
Kimura; Shigeo	Miyagi	N/A	N/A
JP			
Kawagishi; Setuo	Miyagi	N/A	N/A
JP			
Terui; Tsunekazu	Miyagi	N/A	N/A
JP			
Hisagen; Yoshiaki	Miyagi	N/A	N/A
JP			

US-CL-CURRENT: 427/58; 427/122 ; 427/126.6 ; 429/49

ABSTRACT:

An electrode plate in which electrode active material powder and an electrode mixture layer mainly composed of a thermoplastic binder are held on a conductive substrate is crushed. Then, the crushed materials are mixed with organic solvent so that a coating material made of the crushed electrode is prepared. The coating material made of the crushed electrode is applied to the surface of the conductive substrate so that an electrode is manufactured. As an alternative to this, an electrode mixture coating material made of electrode active material powder, thermoplastic resin and organic solvent is dried so that a solid electrode is obtained. Crushed materials obtained by crushing the

solid electrode are mixed with organic solvent so that a coating material made
of the crushed electrode is prepared. The coating material made of the crushed electrode is applied to the conductive substrate so that an electrode is manufactured. The manufacturing methods enable an electrode having excellent characteristics to be manufactured with a low cost by
→ reusing a waste coating
material generated because of a process for manufacturing electrodes or scraps of electrodes or electrodes included in spent batteries.

11 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

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Detailed Description Text - DETX:

The positive electrode, which is reused, is in the form of a coating-type positive-electrode plate which is manufactured by coating a mixture for an electrode prepared by mixing active material powder for a positive electrode, a binder and organic solvent with each other, after which compressive molding is performed. The positive-electrode plate may be wastes of electrodes generated in the process for manufacturing the electrode or a spent electrode obtained by decomposing a battery.

Detailed Description Text - DETX:

The negative electrode attempted to be reused is a coating-type negative-electrode plate which is manufactured by applying, to the surface of a collector, a negative-electrode mixture coating material

prepared by mixing the negative-electrode active material powder, the binder and the organic solvent and by performing compression-molding. The negative-electrode plate may be a waste of an electrode generated in the process for manufacturing the electrode or a spent electrode obtained by decomposing the battery.

Detailed Description Text - DETX:

To reuse the negative-electrode plate, the negative-electrode plate is crushed, and then the crushed materials are sectioned into crushed materials of the negative-electrode mixture layer and those of the conductive substrates. The crushed materials of the negative-electrode mixture layers are mixed with the organic solvent so that a coating material made of crushed materials of negative electrodes is prepared which is then applied to the conductive substrate made of copper foil or the like. Then, compression molding is performed so that the negative-electrode plate is manufactured. The process for crushing the negative-electrode plate and the process for separating the negative-electrode mixture layer from the crushed materials can be performed by using the above-mentioned crushing unit or the vibrating screen unit.